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ABSTRACT

Mental health and self concepts of children are seen as functions of the affective learning environment. Sociograms, as maps of affect flow among children, reveal both functional and maladaptive patterns of classroom interpersonal behavior. Research findings are related to analysis of "centralized" and "diffuse" patterns of classroom sociostructure, particularly as functions of the type of sociometric question asked. Three sociometric areas were examined: "affective," "rejective" and "helping" relationships among children. The academic status and rejection socioquestions were found to be most highly centralized phenomena while affective and personality-based socioquestions revealed the most highly diffuse patterns of sociometric structure. This research in self-contained classrooms suggests that comparative studies would be valuable in more open and individualized classroom organizations. (Author)

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Predicting Social Structure from the Sociometric Question

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Abstract

Mental health and self-concepts of children are seen as functions of the affective learning environment. Sociograms, as maps of affect flow among children, reveal both functional and maladaptive patterns of classroom interpersonal behavior. Research findings are related to analysis of centralized and diffuse patterns of classroom sociostructure, and particularly as functions of the type of sociometric question asked. Three sociometric areas were examined: affective, rejective and helping relationships between children. The academic status and rejection socioquestions were found to be most highly centralized phenomena while affective and personality-based socioquestions revealed the most highly diffuse patterns of sociometric structure. This research in self-contained classrooms suggests that comparative studies would be valuable in more open and individualized classroom organizations.

Predicting Social Structure from the Sociometric Question

Two outstanding factors are related to the sociometric phenomena of classrooms, and these factors should be taken into consideration when studying social networks among pupils. The first factor is teacher-related patterning. As an example, Daily (3, 4) found in classrooms of teachers high in acceptance of pupil's feelings, that children chose more different classmates, more equally, and in longer chains of choice. The second factor is socioquestion-related patterning, which is discussed in this article. Thus a teacher examining the social structure of the class should be aware of the structural bias introduced by the nature of the sociometric criteria. Knowledge about this second factor is useful both in the framing of the sociometric questionaire, and in the interpretation of the sociograms drawn from pupil responses.

What patterns of classroom response can be expected when specific sociometric areas are tapped? In 1970, 576 pupils in eighteen self-contained, fifth-grade classrooms responded to sixteen status and rejection socioquestions. A by-product of the research (3) has been the yield of information on the differences in social structure according to the criteria for choice-making. The socioquestions were designed to probe three main areas: affective, rejective, and helping relationships within each classroom. Affective relationships and assignment of status were probed with questions relating to friendship,

personality, influence-ability, and academic and other school-based competencies. Rejection was probed with socioquestions on lack of competence in both of the above areas, peer avoidances, inability to influence, and coercive physical power. Helping was probed in each direction, that is, both in terms of helping another and of being helped by another child.

In the original research the purpose of the questionaire was to examine peer structural patterns for each classroom as a dependent variable in relation to teacher verbal behavior, (Flanders). However in examining the sociodata, structural phenomena began to emerge as a function of the kind of question asked. This article is addressed to these differences in structural patterns as functions of the kind of peer choice being made.

Types of Sociometric Patterns: Discussion of a theoretical dichotomy of structural patterns is in order as a framework for the actual data. The terms centrality and diffuseness need to be defined as these terms are to be used in the discussion which follows. In this work, centrality is used much as Schmuck (6) had defined it in his research. A centralized class sociostructure is one in which one or two children are extremely overchosen with the rest unchosen, (Figure 1). Diffuseness is defined from concepts by both Schmuck (6) and Jennings (5) in which many children receive choices and these choices chain out into a series of many links between children with fewer children unchosen, (Figure 2). Between these two extremes of pattern in acceptance and rejection, are the

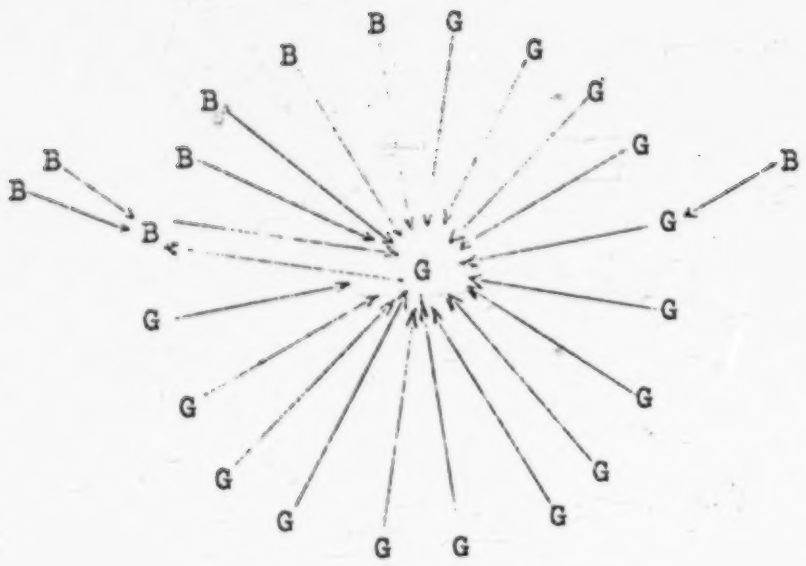

Figure 1. Centralized Structure Pattern, C-D Index = 1 (SQ 4, Classroom 5).

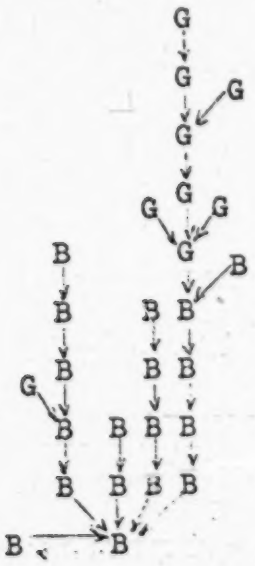

Figure 2. Diffuse Structure Pattern, C-D Index = 27 (SQ 6, Classroom 6).

fragmented structures of many mutual choices, triangles, small cliques, lesser stars.

Each of these patterns have implications for the mental health of children and the quality of interpersonal life in the classroom. In centrally-structured classrooms, only one or two children enjoy the status of acceptance with high concensus. The implications are much different in diffusely-structured rooms. Here the Jennings' "staircase phenomena of psychological choice" (5, p. 88) links many children into networks of affect and regard in hierarchies of choice. The effect of rejection in centrally-structured classrooms must also be contrasted with the effect of rejection in diffusely-structured rooms. If education functions to integrate children into acceptable social roles, high concensus peer-rejection patterns must be a major concern in rehabilitating the highly rejected child.

Helping structures too have impact on the efficiency with which children function together for mutual purposes. Helping sociochoices imply both the friendly desire to help and the assumed competence to do so. The implications of centralized structure from helping socioquestions are 1) that little knowledge exists between peers on relative competencies, 2) that inhibitions are present to deny use of such information if known, 3) that information does exist in highly palpable form on the "dumb one," 4) that appropriateness of helping this one has somehow been signalled or sanctioned. Again the self image of such a "star" must be examined as he sees himself in the eyes of his peers.

In the research some socioquestions produced structures of a similar pattern across all classrooms in the sample, while other socioquestions produced a wide range of patterns from centralized to diffuse sociostructures. In describing these tendencies, it is hoped that other research will explore the extent to which the social criteria dominates the patterns of structure.

Index of Structural Patterning: In studying the range from centrality to diffuseness, an index was developed to describe numerically the differences between patterns. The CENTRALITY-DIFFUSENESS INDEX effectively describes the gradations of difference in a range with centrality at the lower end. In the research the data ranged between a low C-D Index of 1 (highest in centralization) and a high C-D Index of 27 (highest in diffuseness of structure). This range represented the extremes of structure among 234 sociograms of the 18 classrooms, (Figures 1 and 2). Figure 1 with the C-D Index of one represents the most highly centralized sociostructure with almost every child agreeing with all others on which child "it" was. Figure 2 with the C-D Index of 27 exhibits the most diffuse structure in which the most children were chosen in the longest chains of choice. Thus the index is seen as a function of the number who receive choices, the number of links between children, and the number of children in the classroom. The C-D Index is used here as a standard to discuss the patterns of social response to specific sociocriteria.

Centrally Structured Socioquestions: The most highly centralized socioquestion in the data was SQ4, who is smart and good

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at their subjects. The average C-D Index across all eighteen classrooms was 4.2. Children were uniformly high in their agreement on the academically successful. Using the definition suggested by Ahlbrand and Reynolds (1), "highly visible" children are those receiving over ten choices on a socioquestion. On this socioquestion, girls were highly visible more often than boys; and when the centers-of-stars, girls received over twice as many choices as their male counterparts. Overall, very few pupils were perceived by their peers as actively engaged in the role of student. Children in the study did not "see" academic competence as a shared experience, (Table 2).

Similarly the negative corollary of the above, SQ9 who in the room has the most trouble with their subjects was the second most highly centralized with an average C-D Index of 5.4. Though the degree of concensus among children was almost as high as on the previous criteria, boys were highly visible six times as often as girls and also received six times as many of the overchoices. The peer reflection of self image for these young males lacks congruence with the aims and intent of their school life.

Diffusely Structured Socioquestions: In preparing the sociometric instrument, it was anticipated that the most highly linked socioquestion would be one of the helping SQs. This was anticipated since ability to help (or be helped) is in a sense a natural power or competence ladder. Also if the "staircase phenomena" were operative as Jennings (5) suggested would occur in mentally healthy classrooms, then children

TABLE 1. Highly Diffuse Sociostructures: The C-D Indices over 20 in 324 Sociograms of Fifth-Grade Classrooms.

SQ	C-D Index	Links	Choices to Most-Chosen	Class Size
3	21	12	5	34
6	23	8	4	23
6	24	9	5	25
3	26	12	4	26
3	26	11	3	25
6	27	11	5	27

TABLE 2. Highly Centralized Sociostructures: Twelve of Twenty-One C-D Indices under 4 in 324 Sociograms of Fifth-Grade Classrooms.

SQ	C-D Index	Links	Choices to Most-Chosen	Class Size
4	1	4	20	39
4	1	4	19	25
4	2	5	23	38
4	2	5	26	35
4	2	5	20	27
4	2	4	22	33
9	2	3	8	27
9	2	5	11	33
4	3	5	16	34
4	3	4	18	35
9	3	3	17	32
9	3	4	18	33

would tend to choose toward those whom they admired. However those chosen would not be so far above the choosers that the chosen would be indifferent to the feelings and needs of the child choosing them. In actual data, the first helping SQ was second highest in diffuse structures. The SQ6 had asked who would you like to help if they were having trouble with their school work. The most highly diffuse SQ3 was personality-based who in the room is friendly, fun to be with, and doesn't tease, with an average C-D Index of 15 (Table 1). Here the best exhibit of the "staircase phenomena" was found with the maximum number of social linkages in a single direction being 12. A comparison of Table 1 with Table 2 reveals the extremes of difference in children's choosing patterns between Socioquestions Three and Six and Socioquestions Four and Nine.

Summary and Implications: Although the total configuration of the sociogram does provide feedback about the teacher's influence on pupils' affective environments for learning (3,4), the impact of the sociocriteria on the data must be considered in interpreting the patterns. Of the four socioquestions discussed here, social criteria which was highly personal and affective in nature tended to be most diffuse in sociometric patterning; that is, more children mirrored by their peers as acceptable and desirable for these roles. Social criteria related to academic success or failure was most highly centralized with rejections for improper school behavior (not discussed) closely following in the high degree of centralization. Both of these centralized areas are of primary responsibility and task

functions of the teacher. Teacher attention and concern for individuals are far more visible to children collectively than we would like to believe; and with the majority of teachers in this sample, those concerns were focused on the few children at the extremes of academic competence and failure. Pupils are, then, mirrored in the eyes and attitudes of their peers as secondary reflections of teacher concern. The impact on the self-concepts of those children unchosen and those over-rejected can not be ignored.

The classrooms in the research sample were conservatively "traditional" and self-contained. (The Flanders I/D Ratios (2) were all under .5 for the eighteen teachers.) The nature of the data leads directly into questions about possible differences in social structure if the instructional organization were to be individualized and personalized. Much research is needed in regard to the overall impact of administrative groupings and instructional patterns on children's human relationships.

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